

RELATIONSHIP BETWEEN GOODENOUGH DRAW-A-MAN TEST IQ SCORES AND KOPPITZ HUMAN FIGURE DRAWING SCORES

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Psychologists working with children are often in need of a quick and reliable method for assessing the youngsters' mental maturity. The Draw-A-Man Test or the Draw-A-Person Test have frequently been used for this purpose, since they can be easily administered to groups of subjects as well as to individual children. Traditionally such drawings have been scored by the Goodenough scoring system (Goodenough, 1926; Goodenough, 1951; Bernstein, 1951) or more recently by the Goodenough-Harris system (Harris, 1963).

Now a greatly simplified method for scoring Human Figure Drawings (HDFs) has been developed by Koppitz (1967). This system is designed for HDFs of children ages 5 to 12. The youngsters are asked to draw "a whole person." The resulting drawings are then merely checked for the presence of the Expected and the Exceptional items for each subject's age level. The Expected items are those items which occur on more than 85 per cent of all drawings at a given age level, while the Exceptional items are those which are shown on less than 16 per cent of all such drawings. The total number of Expected and Exceptional items for boys and girls ages 5 through 12 never exceeds 17. This means that HFDs are checked for only 14 to 17 items instead of the 51 items scored with the Goodenough method or the 73 items checked by the Harris system. The HFD scoring system therefore saves considerable time when it is used for the drawings of large groups of children.

Each item on Table 1 was given the value of 1. Each omission of an Expected item is scored as -1 , while the presence of each Exceptional item is scored as $+1$. The value of 5 is added to each child's HFD score to avoid any negative scores. Thus a HFD which reveals the absence of one Expected item would be scored as $5 - 1$ or 4; if two Expected items are missing, the HFD score would be $5 - 2$ or 3; if all Expected items are present as well as one Excep-

Revista Interamericana de Psicología

Table 1. EXPECTED AND EXCEPTIONAL ITEMS ON HUMAN FIGURE
DRAWINGS OF BOYS (B) AND GIRLS (G) AGES 5 to 12

	Age 5		Age 6		Age 7		Age 8		Age 9		Age 10		Age 11-12	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G
N.	128	128	131	133	134	125	138	130	134	134	109	108	157	167
Expected items:														
Head	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Eyes	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nose	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mouth	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Body	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Legs	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Arms		X	X	X	X	X	X	X	X	X	X	X	X	X
Feet				X	X	X	X	X	X	X	X	X	X	X
Arms 2 dimen.					X	X	X	X	X	X	X	X	X	X
Legs 2 dimen.						X	X	X	X	X	X	X	X	X
Hair				X		X	X	X	X	X	X	X	X	X
Neck										X	X	X	X	X
Arms down											X	X	X	X
Arms at shoulder														X
2 pieces of clothing														X
Exception items:														
Knee	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Profile	X	X	X	X	X	X	X	X	X	X		X		
Elbow	X	X	X	X	X	X	X	X	X					
Two lips	X	X	X	X	X	X	X		X		X			
Nostrils	X	X	X	X	X		X		X					
Propor- tion	X	X	X	X	X									
Arm at shoulder	X	X	X	X										
4 pc. of clothing	X	X	X	X										
Feet 2 dimen.	X	X												
5 fingers	X													
Pupils	X													

Table 1 shows the Expected and Exceptional items for boys and girls.

tional item the score would be 5 + 1 or 6; the absence of one Ex-
pected item and the presence of one Exceptional item would be

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5 — 1 + 1 or a score of 5; a HFD is also scored as 5 if no Expected item is missing and no Exceptional item is present; etc.

The HFD scores are then interpreted as follows:

HDF SCORE	LEVEL OF MENTAL MATURITY
8 or 7	High average to superior (IQ 110 and up)
6	Average to superior (IQ 90 to 135)
5	Average to high average (IQ 85 to 120)
4	Average (IQ 80 to 110)
3	Low average (IQ 70 to 90)
2	Borderline to low average (IQ 60 to 80)
1 or 0	Retarded or retarded functioning due to very serious emotional disturbances (IQ less than 70)

The HFD scores do not yield a specific IQ score or percentile rank as other scoring methods do. Instead it indicates the *level* of mental function into which a child falls. This information is often sufficient for the screening of large groups of school children or for ruling out retardation in an interview. It also seems likely that such a level of mental functioning may have more long term reliability and validity than a specific IQ score derived from a drawing, since these have not proved to be a stable measure of intelligence (Kellmer, Pringle and Pickup, 1963) for children 7 to 10 years of age.

It was demonstrated earlier (Koppitz, 1967 a) that the HFD scores, obtained from the Expected and Exceptional items, correlate significantly with IQ scores derived from the WISC and the Stanford-Binet (Terman) Scale for elementary school children with emotional and learning problems. The results obtained (r .45 to .80) compare favorably with the correlations between the Goodenough IQ scores and the WISC and Stanford-Binet IQ scores reported in the literature (Estes, Curtin, DeBurger and Denny, 1961; Van and Kessler, 1964; Thompson and Finley, 1963; Muzekary, 1967).

The purpose of the present study is to determine how closely related the Goodenough D-A-M IQ scores and the HFD scores are and whether they can be used interchangeably or if they measure in part different aspects of mental maturity.

PROCEDURE

The subjects for this study were 335 Mexican lower class children from Guadalajara, ages 5 to 12. The drawing test was administered to the subjects, in groups of about 40, by psychologists in the presence of their teachers. The drawings were then scored by one of the authors according to the Goodenough method and then by the other psychologist for the presence of the Expected and the Exceptional items. Thereafter the two sets of test scores were correlated for each age level. Table 2 shows the results.

TABLE 2. Means of and Correlations Between Goodenough IQ Scores and the Human Figure Drawing Scores for 335 Mexican

School Children

Age	N	Mean DAM IQ	Mean HFD Score	Correlation
5 and 6 years	51	110	4.9	.77
7 years	74	96	4.3	.64
8 years	87	93	4.2	.67
9 years	56	93	4.5	.67
10 years	36	87	3.7	.72
11 and 12 years	31	81	3.6	.73

DISCUSSION

All six of the Pearson's product moment coefficients obtained were found to be significant at the .005 level. It appears, therefore, that drawings can be analysed with equal confidence according to the Goodenough method or the Koppitz system. The advantage of the Goodenough method is that it yields a specific IQ and MA score which seems to be valid for most American middle class elementary school children who are not seriously disturbed or brain-injured. The disadvantages of the Goodenough method are the relatively large number of items that have to be scored and the fact that the Draw-A-Man IQ's correlated less well with the WISC and Binet scores of children with neurological impairment (Bender, 1940; Gunzberg, 1955) and with psychiatric problems (Granick, 1963; Hanvick, 1953). It was also found that the Goodenough IQ scores are not a valid measure of intelligence for children from under-developed countries or from areas not exposed to Western civilization (Badri, 1965; Dennis, 1966; Johnson, Johnson and Price-Williams, 1967).

The Koppitz system for scoring HFDs has the advantage of being exceedingly fast and easy to use. By scoring only the few essential items on a drawing and by avoiding many details it is believed that the children from non-Western or underdeveloped countries are less penalized by the HFD scores than by other systems that emphasize drawing details. It is also probable that children with psychiatric problems and neurological impairment are less disadvantaged by the Koppitz scoring method. More studies are needed to test this hypothesis. In an earlier study (Koppitz, 1967 b) it was shown that the correlation between the HFD scores and the WISC IQ scores for the brain-injured children were not only statistically highly significant but also equalled in magnitude the correlations between HFD scores and IQ scores of children without brain injury.

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The disadvantage of the Koppitz method is that it is a very crude measure which yields no specific IQ or MA scores.

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SUMMARY

A new, simple method of determining level of mental functioning from children's drawings has been developed by Koppitz. Comparison of her HFD (Human Figure Drawing) scores with Goodenough IQ scores for the same 335 lower-class Mexican children from age 5 to 12 shows a high correlation between the two measures. It is felt that the HFD is useful for screening large numbers of school children or in any situation in which ease and rapidity of scoring outweigh the disadvantage of not obtaining specific IQ or MA scores. It also seems less likely to put at a disadvantage either the children with brain damage or emotional problems or those who come from underdeveloped areas or non-Western cultures.

RESUMEN

Koppitz ha desarrollado un nuevo y sencillo método para determinar el nivel del funcionamiento mental por medio de dibujos de niños. La comparación de los resultados de su Dibujo de Figura Humana (Human Figure Drawing—HFD) con los resultados de la prueba de inteligencia de Goodenough de los mismos 335 niños mexicanos de la clase baja de 5 a 12 años de edad, muestra una alta correlación entre las dos medidas. Se opina que el HFD es útil para seleccionar grandes números de niños en edad escolar o en cualquier situación en la que la facilidad y la rapidez en obtener los resultados sobrepele la desventaja de no obtener resultados específicos en el coeficiente de inteligencia o en la edad mental. También, parece disminuir la posibilidad de poner en desventaja ya sea a los niños con cerebros dañados o con problemas emocionales o a aquéllos que provengan de áreas sub-desarrolladas o de culturas no-occidentales.

RESUMO

Um novo e simples método para determinar o nível de funcionamento mental a partir de traçados de crianças há sido desenvolvido por Koppitz. Comparação de seus escores TFH (Traçados da Figura Humana) com escores de Q.I. de Goodenough, para um grupo de 335 crianças mexicanas de classe baixa de cinco a doze anos de idade, mostra uma correlação bastante alta entre as duas medidas.

Sugere-se que o TFH é útil para o estudo de grupos de crianças de idade escolar, ou em qualquer outra situação na qual facilidade e rapidez de avaliação são fatores mais importantes que a não obtenção de escores de Q.I. ou I.M. (Idade Mental) específicos. Parece também ser uma medida menos viesada para uso com crianças com dano cerebral, problemas emocionais, de situação social menos privilegiada, ou de culturas não ocidentais.

